

A new genus and two new species of the Japanese Microlepidoptera (Timyridae and Oecophoridae)

SIGERU MORIUTI

Entomological Laboratory, College of Agriculture
University of Osaka Prefecture, Sakai

In the present paper two new Japanese Gelechioid species are described: one is a Timyrid, for which a new genus is proposed, and the other is allied to *Macrobathra equestris* MEYRICK, and is tentatively being placed in the Oecophorid genus *Macrobathra*.

Timyridae CLARKE, 1955

*Issikiopteryx** gen. nov.

Type-species: *Issikiopteryx japonica* sp. nov.

Head with smoothly appressed scales. Ocellus absent. Tongue developed. Antenna slightly over 1, filiform, becoming weakly serrulate apically; scape moderate, without pecten. Labial palpus long, curved, ascending; median segment thickened with closely appressed scales; terminal segment under 1, smooth, slender, acute. Maxillary palpus vestigial. Hind tibia with fine long hairs above. Forewing with costa slightly concave; apex moderately pointed; termen straight, very oblique; cell reaching $3/5$; 12-veined; R_1 from middle, R_4 and R_5 long-stalked, R_5 to costa, M_3 from angle, Cu_{1b} from well before angle, Cu_2 not preserved, except than it is scarcely preserved towards margin only, and $1A+2A$ forming a basal fork. Hindwing a little narrower than forewing; cilia 1; elongate-subtrapezoid, with cubital pecten; termen gently rounded; 8-veined; venation sexually dimorphic; in ♂ all veins separate, cell elongate-ovate, extremely short, with a rather weak but broad vein along lower margin of cell, which is fused with the margin at $2/3$ of cell, M_1 , M_2 , M_3 and Cu_{1a} very close one another in basal portion, where they are depressed, with distinct stripe-pattern, as shown in Fig. 4, cell open between M_1 and M_2 , Cu_{1b} closely approximated to Cu_{1a} at base, from angle, Cu_2 very vestigially preserved, and $1A+2A$ short-furcate, the upper branch being weak; in ♀ R_s and M_1 stalked, free, from base of wing, cell open between M_1 and M_2 , M_2 remote from, and parallel with, M_3 , M_3 and Cu_{1a} short-stalked, from angle, Cu_{1b} from well before angle, Cu_2 very weak, $1A+2A$ similar to that of ♂, $3A$ scarcely preserved, a transverse vein between M_2 and M_3 scarcely preserved, and parting vein preserved.

Abdominal tergite spined, as shown in Fig. 9. In ♂ 8th sternite well developed, with a pair of strong caudal processes (Figs. 5 and 9).

Male genitalia: Of general *Lecithocera* type. Uncus forming an invertedly triangular plate. Gnathos narrow, not soldered with tegumen; hook weak. Tegumen heavily edged, the top being strong and rather broad. Valva broad basally; costa forming a strongly sclerotized band; cucullus rather narrow; transtilla absent. Anellus, a weak plate, with or without lateral lobes. Vinculum broad, oval. Aedeagus stout; cornuti consisting of stout spines.

Female genitalia: Eighth abdominal sternite and tergite forming a large sclerotized plate respectively. Lamella antevaginalis developed into a transverse sclerotized band. Ductus bursae rather short. Signum present.

Remarks: This genus is characterized by the unique venation of male hindwing. It is closely allied to *Lecithocera* HERRICH-SCHÄFFER in genitalia, but differs in the gnathos not soldered with tegumen and in the lamella antevaginalis forming a transverse band.

Besides the type-species, I refer to the present genus the following three species.

Olbothrepta zonophaera MEYRICK, 1935, in CARADJA & MEYRICK, Materialien zu einer Microlepi-

* Issiki+pteryx (fem.); the name is dedicated to Professor S. ISSIKI.

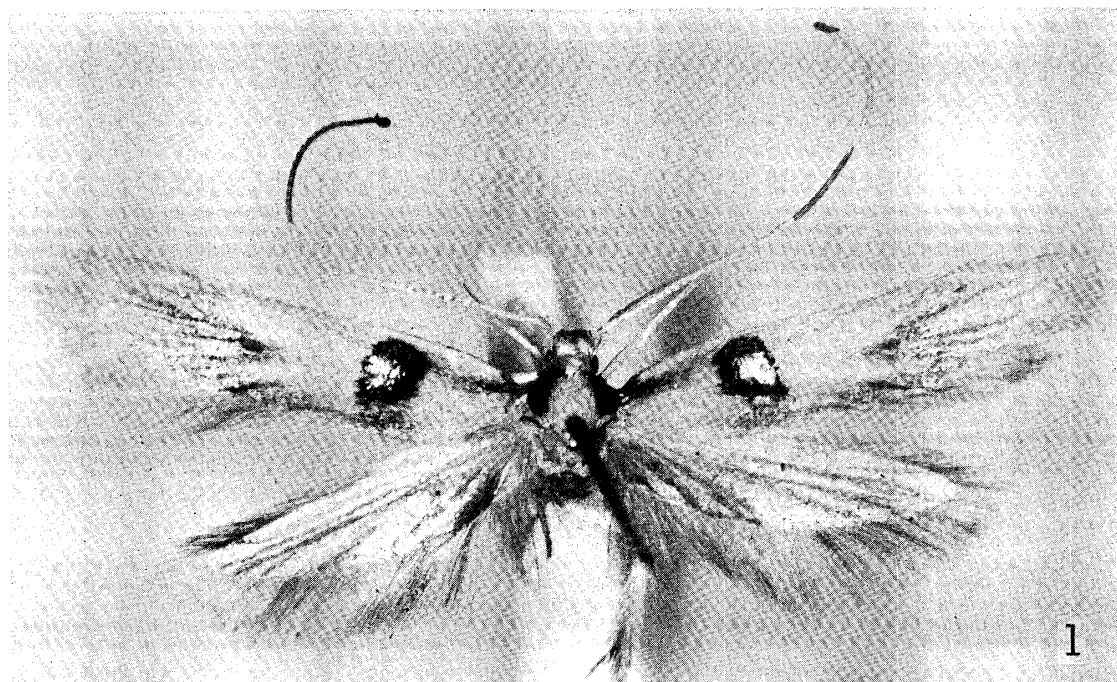


Fig. 1. *Issikipteryx japonica* gen. et sp. nov., ♂.

dopteren-Fauna der chinesischen Provinzen Kiangsu, Chekiang und Hunan : 73 (C. China).—CLARKE, 1965, Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edwards Meyrick, 5 : 191, pl. 95, figs. 3-3 b.

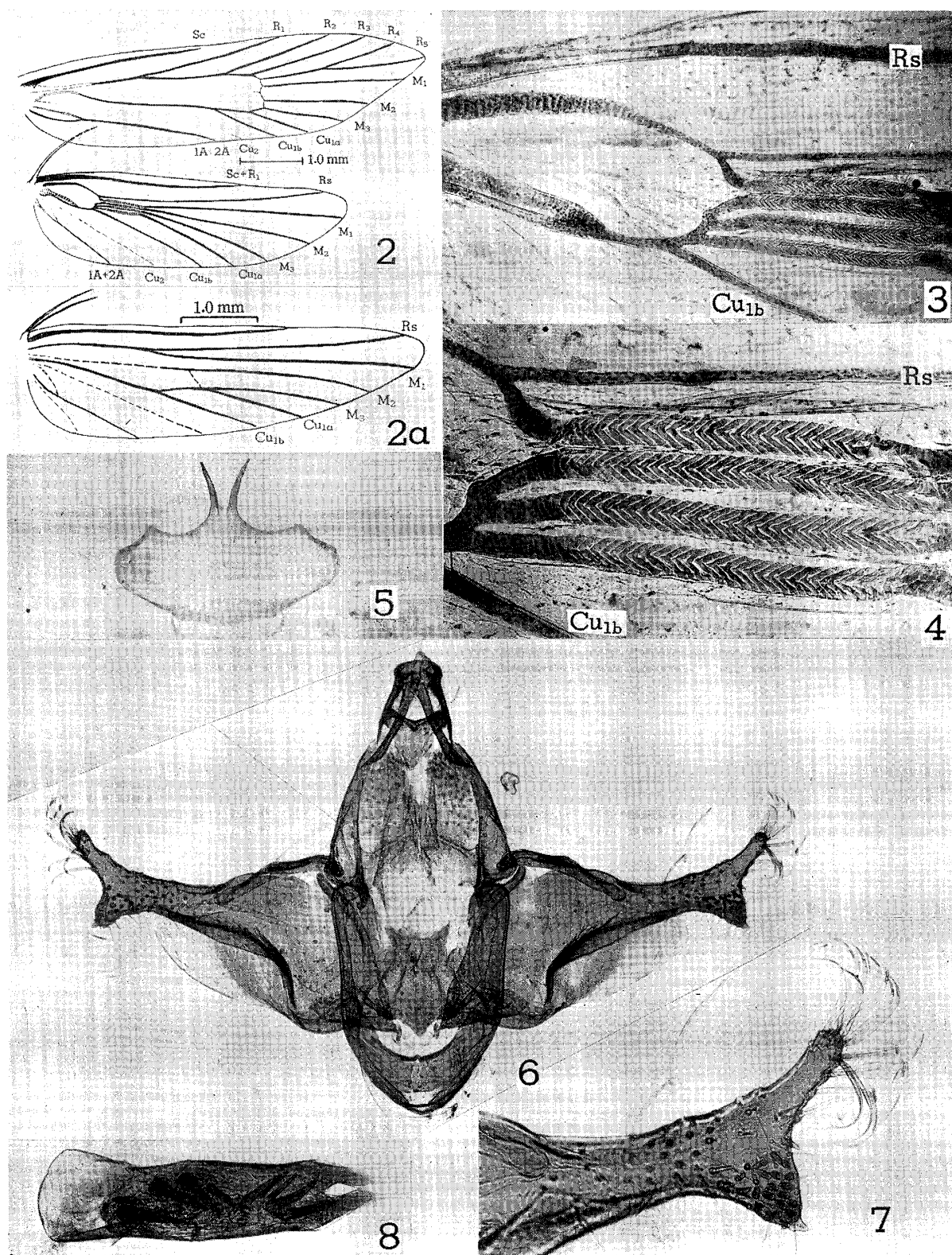
Timyra sphaeristis MEYRICK, 1908, Journ. Bombay Nat. Hist. Soc., 18 : 450 (S. India).—CLARKE, 1965, Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edwards Meyrick, 5 : 191, pl. 95, figs. 2-2 c (*Olbothrepta*).

Timyra corythista MEYRICK, 1918, Exot. Microlep., 2 : 98 (S. India).—CLARKE, 1965, Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edwards Meyrick, 5 : 191, pl. 95, figs. 1-1c (*Olbothrepta*).

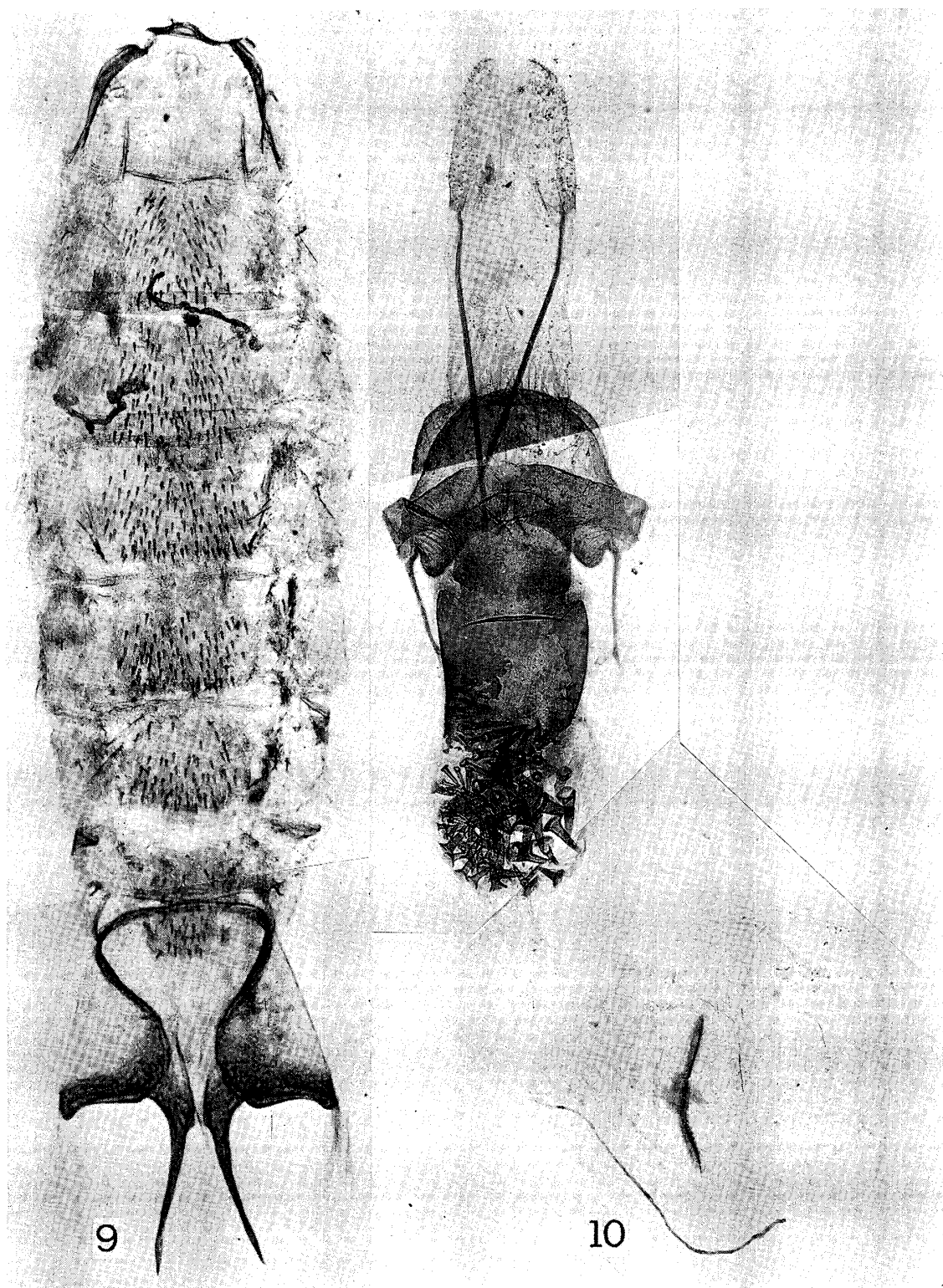
***Issikipteryx japonica* sp. nov. (Figs. 1-10)**

♂ ♀. 13-15 mm. Head shining light ochreous-yellowish; sides of crown pale orange-yellow. Palpus pale orange-yellow, the inner side being pale yellow. Antenna pale orange-yellow, tinged with brown towards apex. Thorax orange-yellow to deep yellow; patagium and tegula silvery-grey-metallic. Legs pale yellowish; tibiae and tarsi orange-yellow, the hind tibia with a projecting tuft of dark fuscous hairs on origin of median spurs, and with a tuft of dark fuscous hairs at posterior end, and the hind tarsus with a blackish-fuscous mark at posterior end of each segment. Abdomen pale ochreous-grey above, yellowish beneath; anal tuft pale orange-yellow. Forewing: shape as shown in Figs. 1 and 2; orange-yellow to deep yellow, slightly shaded with ochre along costal margin throughout its length; a dark fuscous streak along upper margin of cell, extending from base to a conspicuous large silvery-metallic blotch, which is enclosed with blackish-brown and situated at 1/3 of wing-length; dorsal area suffused with grey-brown from 1/5 of wing-length to tornus; distal 1/3 grey, the anterior margin being angulated inwards in disc; cilia orange-yellow to deep yellow, on dorsum greyish. Hindwing: colour sexually dimorphic as well as venation; in ♂ rather dark grey, with a longitudinal tuft of deep yellow hairs on basal 2/5, lying in a submedian furrow, the costal area, except on apical area, being whitish and subhyaline, and the distal 3/5, except on apical area, being suffused with pale yellow in disc; in ♀ uniformly grey; cilia grey in both sexes.

Male genitalia: as in Figs. 6-8. Uncus with a greatly concave caudal margin. Caudal margin of tegumen gently convex. Valva with costa reaching to 1/2 of valval length; cucullus produced into



Figs. 2-8. *Issikiapteryx japonica* gen. et sp. nov. (2-4) Wing venation: (2) ♂; (2a) hindwing, ♀; (3) hindwing, ♂, discoidal area; (4) hindwing, ♂, basal portion of veins M_1 - Cu_{1a} . (5) 8th abdominal sternite, ♂. (6-8) ♂ genitalia: (6) ventral aspect; (7) distal portion of right valva; (8) aedeagus, ventral aspect.



Figs. 9-10. *Issikiopteryx japonica* gen. et sp. nov. (9) abdomen, ♂, dorsal aspect; (10) ♀ genitalia, ventral aspect.

a dorsal digitate process, which is decorated with many hooked hairs, the ventral portion being armed with many small spines on internal surface and with a large tooth and two or three minute teeth at distal corner. Anellus simple, the posterior margin being gently concave. Aedeagus weakly curved ventrally, with a pair of apical lobes; cornuti about 10 in number.

Female genitalia: as in Fig. 10. Eighth abdominal sternite semicircular. Lamella antevaginalis longitudinally broad. In ductus bursae posterior $3/4$ very broad, rounded anteriorly, its posterior $2/3$ being heavily sclerotized, and its anterior $1/3$ being membranous and filled with spikes; anterior $1/4$ very narrow, membranous. Corpus bursae rounded, membranous; signum a narrow dentate plate about middle of corpus.

Holotype, ♂, Natsan, Wakayama Prefecture, Honsyū, 31. v. 1957 (T. YASUDA), in the collection of the Entomological Laboratory, University of Osaka Prefecture. Paratypes: Honsyū- 2♀♀, same data as type; 1♀, Takaosan, Tokyo Pref., 11. vi. 1952 (M. HOSINO & T. HAGA); 1♀, Sirane-onsen, Nagano Pref., 9. viii. 1969 (S. SHIMEKI); 1♂, Hakubasan, Nagano Pref., 14. vii. 1953 (T. KODAMA); 2♂♂, Kutukake, Nagano Pref., 30. vi. 1956 (T. YASUDA); Sikoku- 1♂, Omogoyama, Ehime Pref., 16. vi. 1956 (M. OKADA); Kyūsyū- 1♂, 1♀, Hikosan, Hukuoka Pref., 16. vii. 1957 (M. OKADA); all in the Ent. Lab., Univ. Osaka Pref.

Distribution: Japan (Honsyū, Sikoku, and Kyūsyū).

Host-plant: Unknown.

Remarks: This species is very closely allied to *Issikipteryx zonophaera* (MEYRICK, 1935), of which only the male is known, but differs from the latter, in superficial appearance, by the forewing with one large blotch instead of two, and, in male genitalia, by the cucullus strongly dilated ventrad and dorsad and by the cornuti larger and being about 10 instead of about 15 in number.

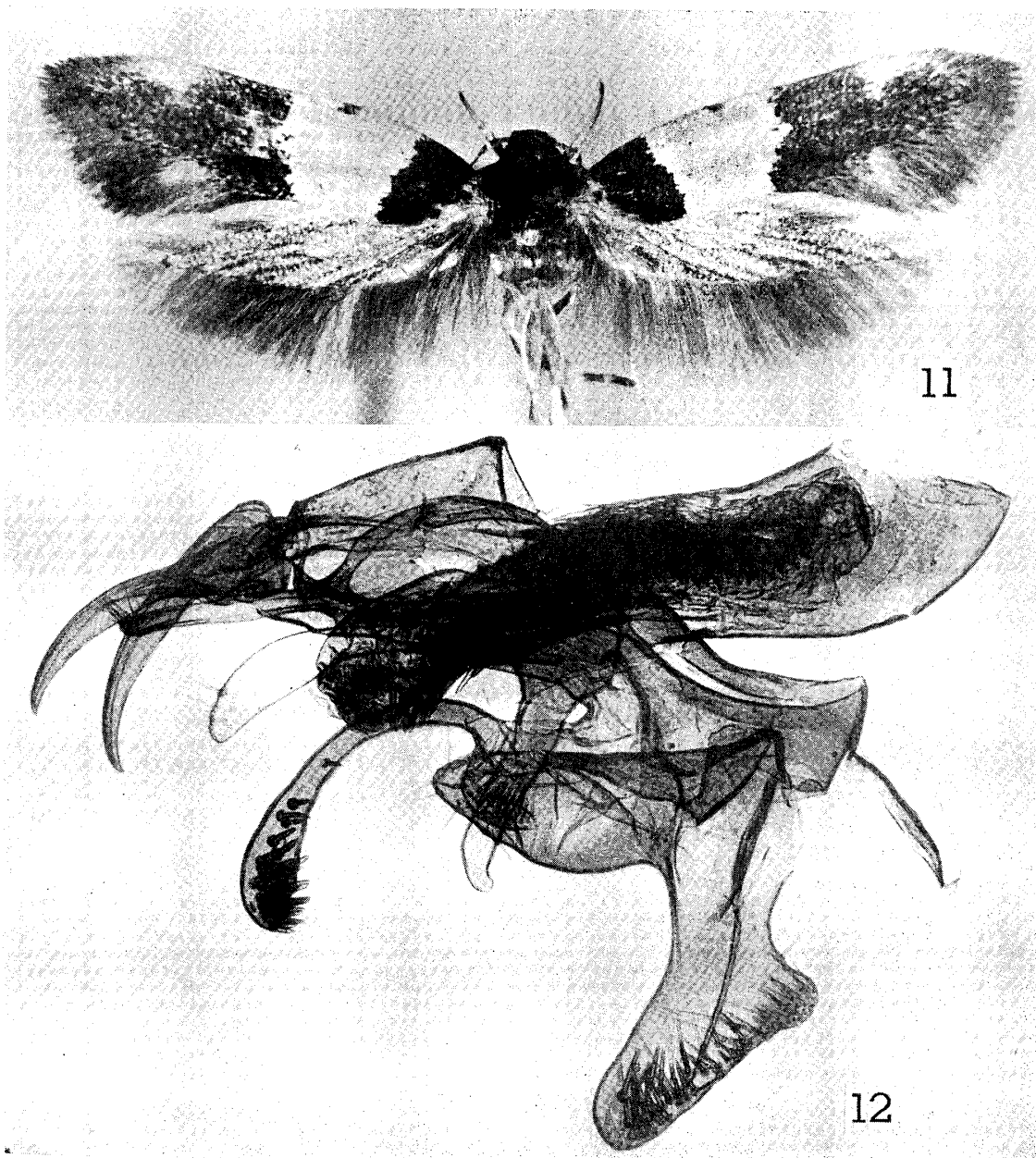
Oecophoridae STANTON, 1859

Macrobathra quercea sp. nov. (Figs. 11-22)

♂ ♀. 13-15 mm. Head and thorax bronzy-fuscous; face pale yellowish-white. Palpus very long, slender, strongly recurved, divergent, the terminal segment being much longer than the median; dark fuscous, largely mixed with pale ochreous-white. Antenna white, spotted with black-brown above. Legs having fore coxa in ♂ with an expanded slender hair tuft, which consists of about ten hairs, from posterior end of lateral side; pale yellowish-white; fore and mid tibiae largely suffused laterally with blackish-brown, the mid tibia being conspicuously spotted with yellowish-white at posterior end; hind tibia suffused with dark brown on anterior portion and posterior half; all tarsi pale brownish-white, suffused with dark brown laterally. Abdomen dark grey above, and ochreous-grey beneath. Both wings with venation (Fig. 13) of the ordinary type of *Macrobathra*. Forewing: shape as shown in Figs. 11 and 13; fuscous, towards base dark fuscous; a broad transverse yellow fascia extending from $1/5$ to middle, wider on costal than on dorsal margin, and double-edged on each side, viz. with white first, and then with some black scales; the fascia with a small mark of fuscous ground-colour on costa at $1/3$ of wing-length; a distinct ochreous-yellow costal spot at $4/5$, running through cilia; cilia pale greyish-fuscous, with an ochreous-yellow or dirty ochreous-yellow spot on tornus. Hindwing $4/5$; cilia $1\frac{1}{2}$; grey, darker posteriorly; cilia grey, on dorsum yellowish.

Abdominal tergite without spine.

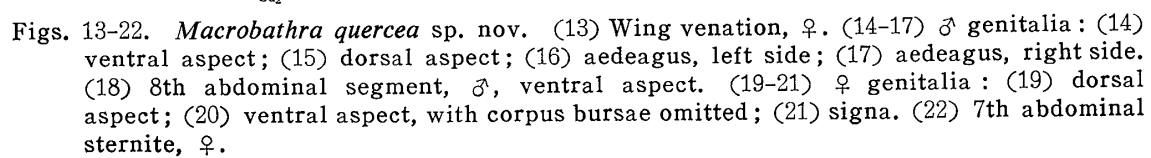
Male genitalia: as in Figs. 12, 14-18. Asymmetrical. Uncus bipartite, two naked, flattened, gently curved projections, each with a dull-pointed apex. Tegumen strong, short, with a digitate process rising from right basal corner. Anellus not forming a ventral supporting plate of aedeagus, but dorsally developed into a sclerotized ring, with an elongate process, the apex of which is set with several hairs. Valva divided into two parts: right valva broad, the dorsal part being small and elongate-ovate, with several hairs, and the ventral part being much larger, dilated distally and armed with many spinelike hairs in distal area; left valva narrow, the dorsal part being slender, curved, and a little dilated before apex, with several slender hairs in apical portion, and the ventral part, the basal portion of which is roundly expanded and set with many short hairs, being slender, much curved, clavate distally, and armed with many short spines in distal portion. Aedeagus large, stout, with a distinct digitate process; cornuti, a dense patch of spines. Coremata present.



Figs. 11-12. *Macrobathra quercea* sp. nov.: (11) ♂; (12) ♂ genitalia, lateral aspect.

Female genitalia: as in Figs. 19-21. Papilla analis moderate. Intersegmental membrane between papilla analis and 8th abdominal segment long. Eighth abdominal segment well sclerotized, except in a narrow membranous mid-ventral slit. Sinus vaginalis strongly developed into a large sclerotized chamber; bursa copulatrix membranous throughout; ductus bursae dilated at posterior 1/3 and coiled at posterior 3/5; corpus bursae round, with a pair of large, hexagonally patterned discs; a small spiniform signum situated at centre of the disc. Ductus seminalis not observed; a large, ovate, flattened, strongly sclerotized sac with a longitudinal ridge (bulla seminalis?), attached to middle of ductus; inception of ductus receptaculi from the large sac (bulla seminalis?). Seventh abdominal sternite developed into a sclerotized plate (Fig. 22), which is compactly clothed with hairs on inner surface.

Holotype, ♂, Kuragaritôge, Osaka Prefecture, Honsyû, emerged 22. vi. 1957 (S. MORIUTI), reared from larva feeding on leaves of *Quercus serrata* THUNB., in the collection of Ent. Lab., Univ. Osaka Pref. Paratypes: Honsyû- 1♂, 1♀, same data as type; 2♀♀, same data as type except, emerged 25. vi.



1957; 1♀, Sakamaki-onsen, Niigata Pref., 28-29. vii. 1970 (F. KOMAI); 1♂, Kongōsan, Osaka Pref., 6. vii. 1959 (M. OKADA); 1♂, Kawati-Amami, Osaka Pref., emerged 9. vi. 1956 (T. KODAMA), reared from *Quercus glauca* THUNB.; 2♀♀, Inunakisan, Osaka Pref., 6. vii. 1956 (T. KODAMA); all in the Ent. Lab., Univ. Osaka Pref.

Distribution: Japan (Honsyū).

Host-plants: *Quercus serrata* THUNBERG and *Q. glauca* THUNBERG (Fagaceae).

Remarks: This species is very similar to *Macrobathra equestris* MEYRICK (1910), occurring in Assam and China, but differs evidently from the latter in smaller size and in forewing with two spots on distal half; in female genitalia *quercea* differs markedly from *equestris* in the presence of the large sclerotized sac at the middle of ductus bursae, and in the differently shaped ductus. I have seen no males of *equestris*, though I have examined the female lectotype of it.

The Oecophorid genus *Macrobathra* seems to be heterogeneous, and in all probability it will have to be transferred out of Oecophoridae. The venation of *quercea* is of a general *Macrobathra* type, as shown in Fig. 13, while the shape of the genitalia, especially in male, certainly suggests a generic difference. Judging from the venation, *quercea* can best be placed in Oecophoridae; however, the asymmetrical male genitalia rather suggest a relationship with Cosmopterigidae. I am tentatively placing it in the genus *Macrobathra* until the genus is revised.

Ecological notes: The life-cycle is imperfectly known. It is probably a univoltine species. In Osaka Prefecture the larvae are found from late April to mid July on *Quercus serrata* and *Q. glauca*. Larva binds leaves together with silk, feeding inside. Pupation takes place in a whitish dense cocoon within the larval shelter.

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カラスシジミの幼虫をズミで採集

杉 繁 郎

東京都大田区大森北4丁目 14-12

カラスシジミ *Strymonidia w-album fentoni* BUTLER の幼虫が、自然状態で種々のバラ科植物に見出されることはすでに知られているが、報告された観察例はあまり多くないようである。

1972年7月1日、布施英明、七五三木伸二両氏の御案内により、群馬県新鹿沢温泉付近(標高約 1,300 m)で幼虫採集を試みた際、樹高約 6 m ばかりのよく茂ったズミ *Malus sieboldi* REHD. のほぼ眼高の大枝から、ピーティングによって終令2、若令1、計3頭のカラスシジミの幼虫を得た。終令幼虫はすでに老熟しており、摂食することなく蛹化したが、2頭とも寄生バチが脱出して死んだ。若令の1頭はズミの未熟果に食入り、後に若い葉を食べて成長したが、1回脱皮したのち約 10 日後に死んだ。従って成虫を得ることはできなかったが、幼虫、蛹の所見によって、種の同定には問題がないと思われる。ここに一資料として記録しておく。